Remarks

New claims 18-23, which indicate that the agriculturally active chemical can be pendimethalin, benefin, triflurin or Bifenthrin in addition to prodiamine, have been added. *See* Paragraph [0013] of the specification.

Process Claims 1-8 and 18-20

Claim 1 indicates that the prodiamine or analog is **dissolved** in the liquid **organic** carrier.

In contrast, Zagar et al. in Paragraph [0276] refers to "sprayable **aqueous** solutions," "highly-concentrated aqueous, oily or other **suspensions** or **dispersions**" and "oily **dispersions** or **suspensions**." Organic solutions are not mentioned. Moreover, this disclosure clearly relates to compositions which are "**directly sprayable**" on the plants to be treated, not to liquid **impregnating** compositions used to treat pre-existing fertilizer particles.

Similarly the disclosure in Paragraph [0280] of Zagar et al. relating to N-methylpyrrolidone having a "carrier function" clearly relates to direct application of the N-methylpyrrolidone composition to the plants to be treated, not to **impregnating** pre-existing fertilizer particles with the composition for later application to the plants. *See*, for example, the second column of page 109 of the newly-cited Ross et al. article, which expressly states

> "A carrier is a gas, liquid, or solid substance used to dilute or suspend a herbicide **during application**." (emphasis added)

Finally, Paragraph [0284] Zagar et al. at best indicates that (1) "coated granules, impregnated granules and homogeneous granules...can be prepared by binding the active compounds to solid carriers" and (2) "ureas" can be a solid carrier. There is no disclosure, however, that an "active compound" can be "bound" to particulate fertilizer such as urea by **impregnating** the fertilizer with an **organic solution** of the active compound.

Accordingly, the Zagar et al. patent fails to suggest a process for making a fertilizer product in which a particulate fertilizer is contacted with a liquid **impregnating** composition comprising prodiamine or analog **dissolved** in an **organic** liquid carrier.

The Ross et al. article fails to remedy the defects of Zagar et al. This reference describes many different ways that herbicides can be applied to plants. Notably absent, however, is any

suggestion that the herbicide can first be **dissolved** in an **organic** solvent and the composition so obtained then used to **impregnate** a pre-existing fertilizer particle.

The newly-cited Weston et al. patent is no better than Ross et al. At best, this reference merely shows that a solution of NBPT dissolved in N-methyl-2-pyrrolidone can be combined with **molten** urea to form a granular fertilizer composed of a **homogenous** mixture of the NBPT and urea. This is the exact **opposite** of what occurs in the inventive process in which the agriculturally active chemical is combined with granular fertilizer particles **after** they are formed.

As indicated in the specification, it is already known to make prodiamine-containing fertilizers by blending powdered prodiamine with granular fertilizer particles. However, this manufacturing process is dangerous due to a fire hazard. In accordance with the invention, it was discovered particulate fertilizer particles containing the desired amount of prodiamine could be produced by impregnating the pre-formed fertilizer particles with a solution of the prodiamine dissolved in a suitable organic solvent such as N-methyl-2-pyrrolidone or the like. (As indicated in the specification, this solution may contain more than a saturation amount of the prodiamine whereby dispersed prodiamine is also present.)

Not one of the cited references shows a process in which previously formed granules of urea or other fertilizer are impregnated with an **organic solution** of an agriculturally active chemical **dissolved** in an **organic** solvent. Therefore, they fail to suggest the invention of claims 1-8, 18 and 19 in the sense of 35 U.S.C. § 103.

Composition Claims 9-17 and 21-23

As indicated above, the only disclosures in Zagar et al. and Ross et al. relating to organic solvents relates to using these liquids as **carriers** for the **direct** application of an agriculturally active chemical to the plants to be treated. Thus, neither of these references suggests a granular fertilizer product in which such an organic liquid is **combined** with fertilizer particles.

The newly-cited Weston et al. patent does show N-methyl-2-pyrrolidone combined with urea and NBPT. However, an important feature of this product is that it is formed in such a way that its ingredients are **homogeneously** mixed. Therefore, this product is neither the same as nor suggestive of the **impregnated** product of claim 10, which would inherently contain a

concentration gradient of the agriculturally active chemical and solvent from surface to core because of the way it is made.

For the reasons given above in connection with process claims 1-8 and 18-20, the Weston et al. patent whether considered alone or in combination with Zagar et al. and Ross et al. fails to suggest a process for making a fertilizer product in which fertilizer particles are **impregnated** with a **solution** of an agriculturally active chemical in an **organic** solvent. For the same reasons, these reference also fail to suggest the fertilizer products that would be obtained which such a process is carried out.

Claims 6-9 and 16-23

These claims indicate that the agriculturally active chemical is prodiamine or at least one of prodiamine, pendimethalin, benefin, triflurin and Bifenthrin. Although the Weston et al. patent does show NBPT and DCD combined with urea, it fails to disclose or suggest any of these other chemicals. Accordingly, these claims are clearly patentable over the Zagar et al., Ross et al. and Weston et al. references.

If any additional fees are due, please charge our Deposit Account No. 03-0172.

Respectfully submitted,

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